

COMPOSITION FOR AN ETCHING MASK COMPRISING A SILICON-CONTAINING MATERIAL

ABSTRACT OF THE DISCLOSURE

[0057] The present invention includes a composition for a silicon-containing material used as an etch mask for underlying layers. More specifically, the silicon-containing material may be used as an etch mask for a patterned imprinted layer comprising protrusions and recessions. To that end, in one embodiment of the present invention, the composition includes a hydroxyl-functional silicone component, a cross-linking component, a catalyst component, and a solvent. This composition allows the silicon-containing material to selectively etch the protrusions and the segments of the patterned imprinting layer in superimposition therewith, while minimizing the etching of the segments in superposition with the recessions, and therefore allowing an in-situ hardened mask to be created by the silicon-containing material, with the hardened mask and the patterned imprinting layer forming a substantially planarized profile.